FIG. 1

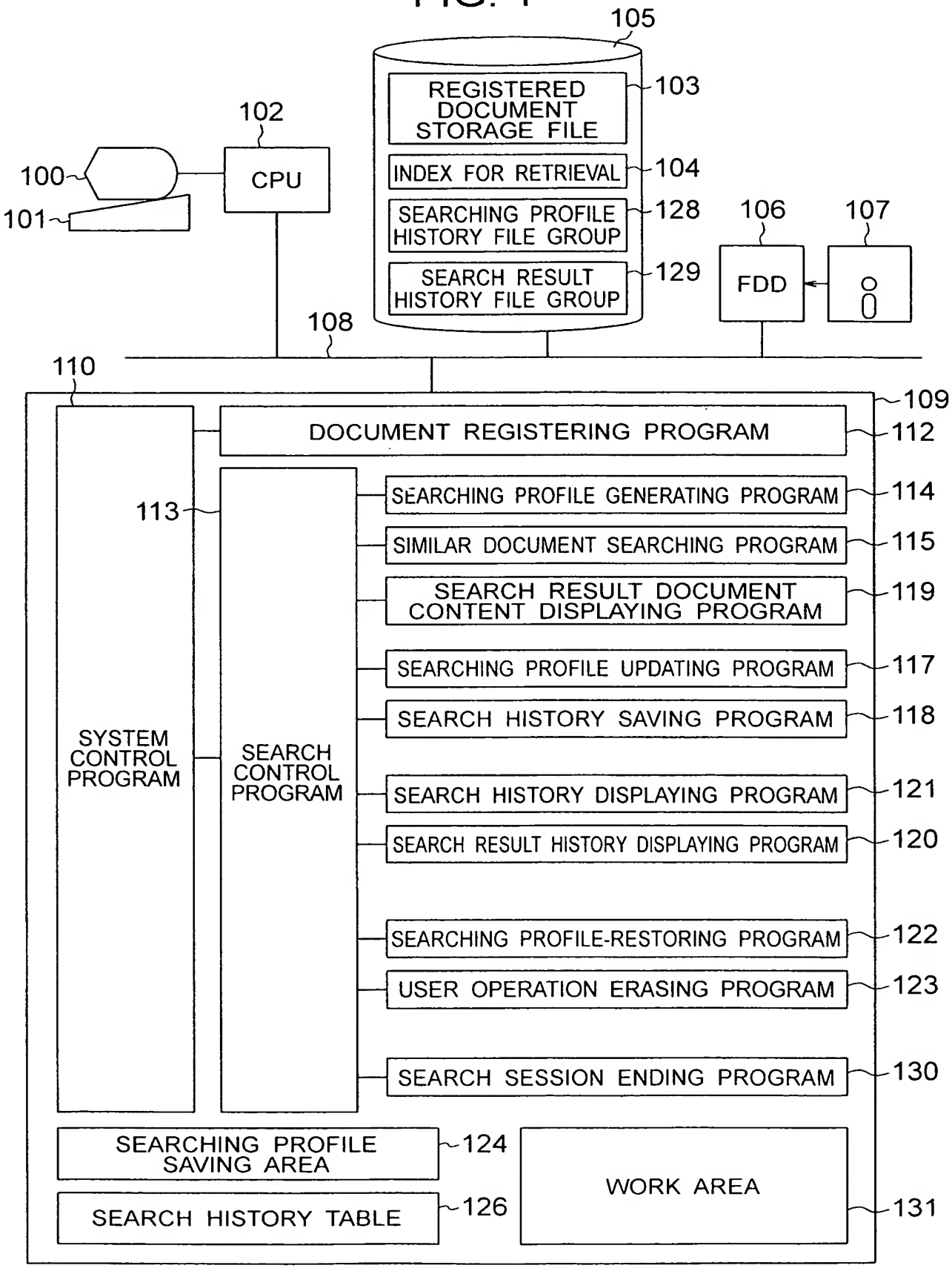

105
REGISTERED DOCUMENT STORAGE FILE
103
INDEX FOR RETRIEVAL
104
SEARCHING PROFILE HISTORY FILE GROUP
128
SEARCH RESULT HISTORY FILE GROUP
129
102
CPU
100
101
106
FDD
107
108
110
109
DOCUMENT REGISTERING PROGRAM
112
113
SEARCHING PROFILE GENERATING PROGRAM
114
SIMILAR DOCUMENT SEARCHING PROGRAM
115
SEARCH RESULT DOCUMENT CONTENT DISPLAYING PROGRAM
119
SEARCHING PROFILE UPDATING PROGRAM
117
SEARCH HISTORY SAVING PROGRAM
118
SYSTEM CONTROL PROGRAM
SEARCH CONTROL PROGRAM
SEARCH HISTORY DISPLAYING PROGRAM
121
SEARCH RESULT HISTORY DISPLAYING PROGRAM
120
SEARCHING PROFILE-RESTORING PROGRAM
122
USER OPERATION ERASING PROGRAM
123
SEARCH SESSION ENDING PROGRAM
130
SEARCHING PROFILE SAVING AREA
124
SEARCH HISTORY TABLE
126
WORK AREA
131

FIG. 2

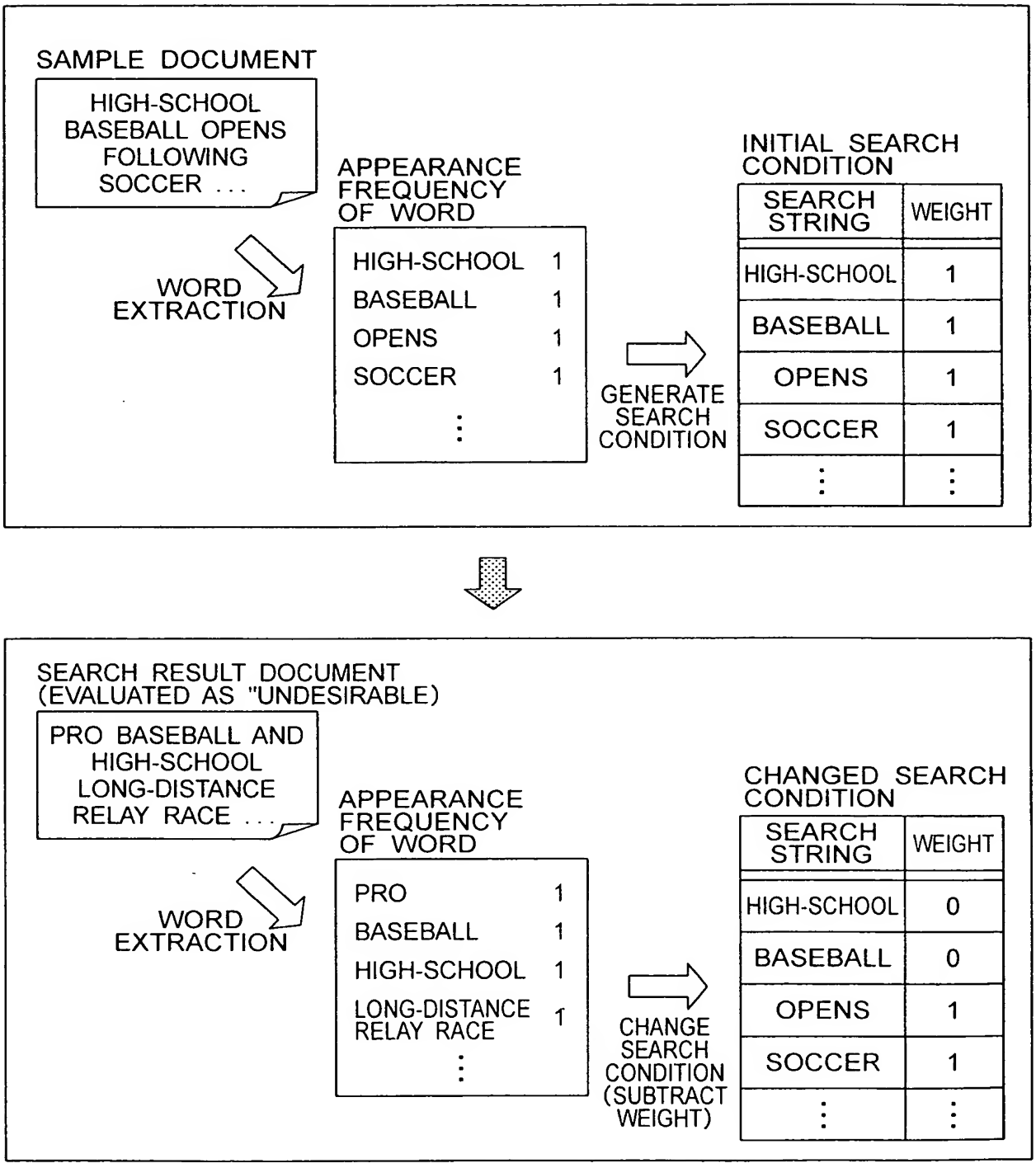

SAMPLE DOCUMENT
HIGH-SCHOOL BASEBALL OPENS FOLLOWING SOCCER ...
WORD EXTRACTION
APPEARANCE FREQUENCY OF WORD
HIGH-SCHOOL 1
BASEBALL 1
OPENS 1
SOCCER 1
GENERATE SEARCH CONDITION
INITIAL SEARCH CONDITION
SEARCH STRING
WEIGHT
HIGH-SCHOOL 1
BASEBALL 1
OPENS 1
SOCCER 1
SEARCH RESULT DOCUMENT (EVALUATED AS "UNDESIRABLE)
PRO BASEBALL AND HIGH-SCHOOL LONG-DISTANCE RELAY RACE ...
WORD EXTRACTION
APPEARANCE FREQUENCY OF WORD
PRO 1
BASEBALL 1
HIGH-SCHOOL 1
LONG-DISTANCE RELAY RACE 1
CHANGE SEARCH CONDITION (SUBTRACT WEIGHT)
CHANGED SEARCH CONDITION
SEARCH STRING
WEIGHT
HIGH-SCHOOL 0
BASEBALL 0
OPENS 1
SOCCER 1

FIG. 3

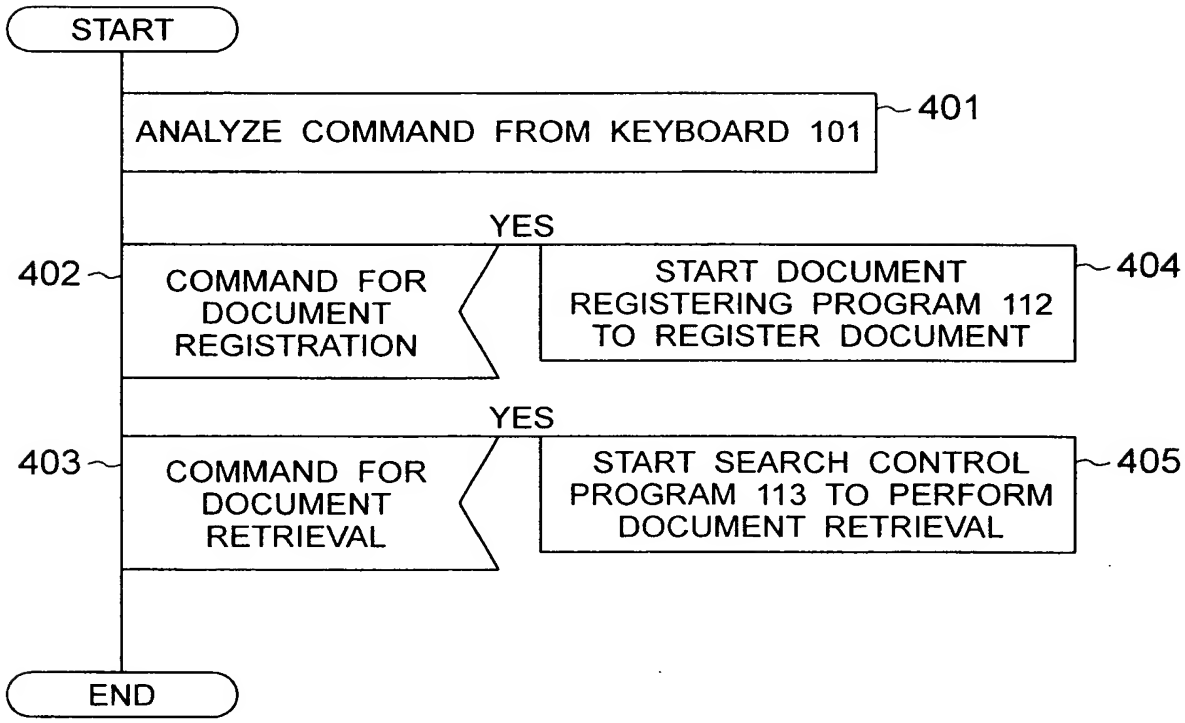

START
ANALYZE COMMAND FROM KEYBOARD 101
401
YES
402
COMMAND FOR DOCUMENT REGISTRATION
START DOCUMENT REGISTERING PROGRAM 112 TO REGISTER DOCUMENT
404
YES
403
COMMAND FOR DOCUMENT RETRIEVAL
START SEARCH CONTROL PROGRAM 113 TO PERFORM DOCUMENT RETRIEVAL
405
END

FIG. 4

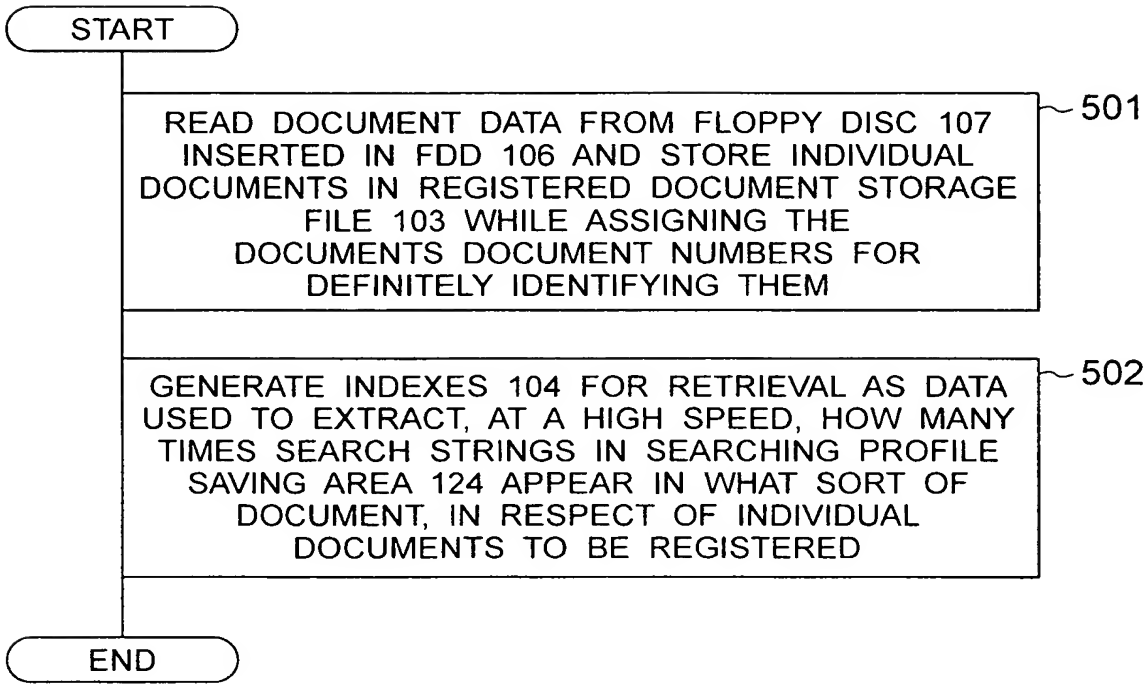

START
READ DOCUMENT DATA FROM FLOPPY DISC 107 INSERTED IN FDD 106 AND STORE INDIVIDUAL DOCUMENTS IN REGISTERED DOCUMENT STORAGE FILE 103 WHILE ASSIGNING THE DOCUMENTS DOCUMENT NUMBERS FOR DEFINITELY IDENTIFYING THEM
501
GENERATE INDEXES 104 FOR RETRIEVAL AS DATA USED TO EXTRACT, AT A HIGH SPEED, HOW MANY TIMES SEARCH STRINGS IN SEARCHING PROFILE SAVING AREA 124 APPEAR IN WHAT SORT OF DOCUMENT, IN RESPECT OF INDIVIDUAL DOCUMENTS TO BE REGISTERED
502
END

FIG. 5

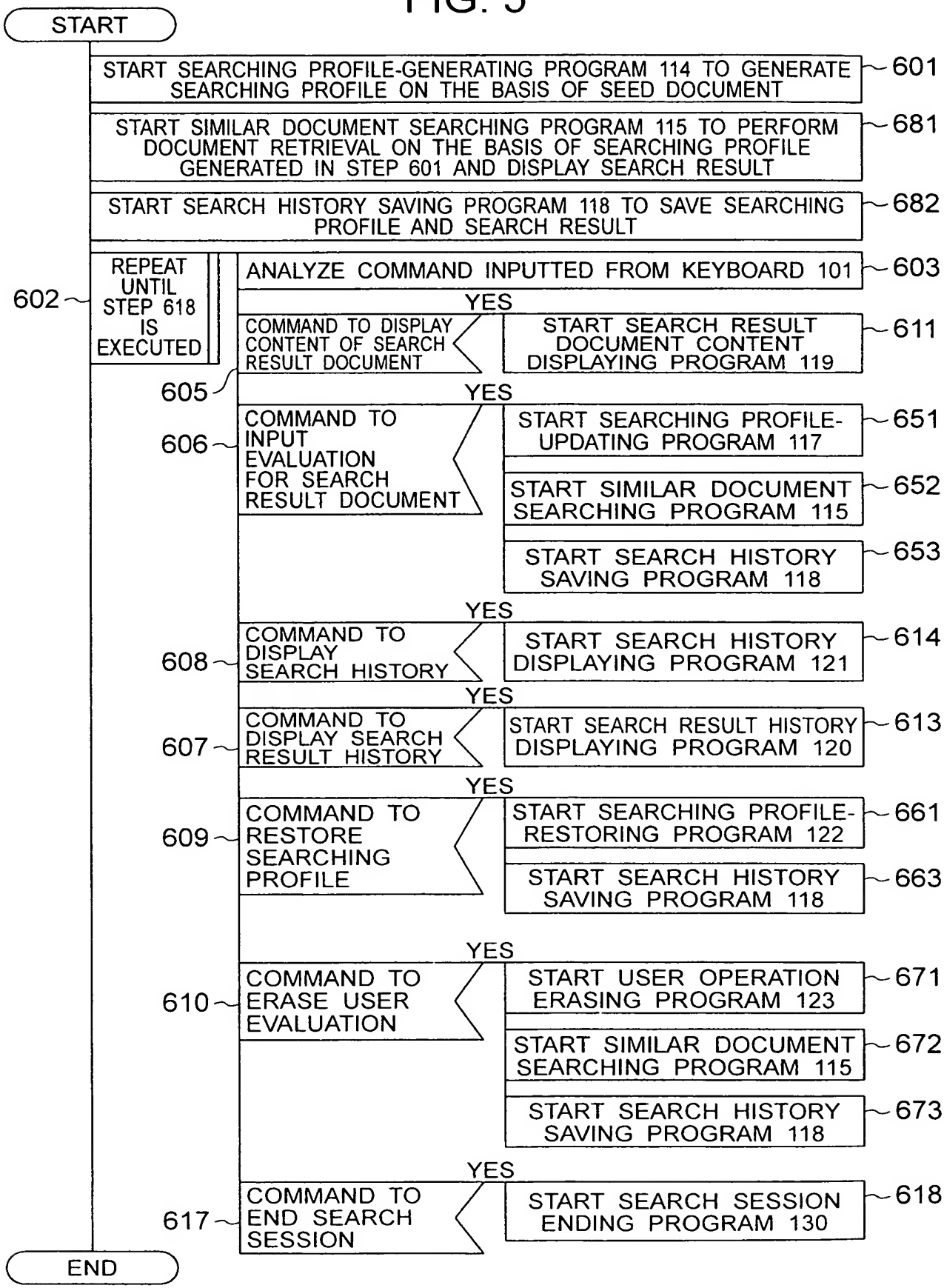

START
START SEARCHING PROFILE-GENERATING PROGRAM 114 TO GENERATE SEARCHING PROFILE ON THE BASIS OF SEED DOCUMENT
601
START SIMILAR DOCUMENT SEARCHING PROGRAM 115 TO PERFORM DOCUMENT RETRIEVAL ON THE BASIS OF SEARCHING PROFILE GENERATED IN STEP 601 AND DISPLAY SEARCH RESULT
681
START SEARCH HISTORY SAVING PROGRAM 118 TO SAVE SEARCHING PROFILE AND SEARCH RESULT
682
602
REPEAT UNTIL STEP 618 IS EXECUTED
ANALYZE COMMAND INPUTTED FROM KEYBOARD 101
603
YES
605
COMMAND TO DISPLAY CONTENT OF SEARCH RESULT DOCUMENT
START SEARCH RESULT DOCUMENT CONTENT DISPLAYING PROGRAM 119
611
YES
606
COMMAND TO INPUT EVALUATION FOR SEARCH RESULT DOCUMENT
START SEARCHING PROFILE-UPDATING PROGRAM 117
651
START SIMILAR DOCUMENT SEARCHING PROGRAM 115
652
START SEARCH HISTORY SAVING PROGRAM 118
653
YES
608
COMMAND TO DISPLAY SEARCH HISTORY
START SEARCH HISTORY DISPLAYING PROGRAM 121
614
YES
607
COMMAND TO DISPLAY SEARCH RESULT HISTORY
START SEARCH RESULT HISTORY DISPLAYING PROGRAM 120
613
YES
609
COMMAND TO RESTORE SEARCHING PROFILE
START SEARCHING PROFILE-RESTORING PROGRAM 122
661
START SEARCH HISTORY SAVING PROGRAM 118
663
YES
610
COMMAND TO ERASE USER EVALUATION
START USER OPERATION ERASING PROGRAM 123
671
START SIMILAR DOCUMENT SEARCHING PROGRAM 115
672
START SEARCH HISTORY SAVING PROGRAM 118
673
YES
617
COMMAND TO END SEARCH SESSION
START SEARCH SESSION ENDING PROGRAM 130
618
END

FIG. 6

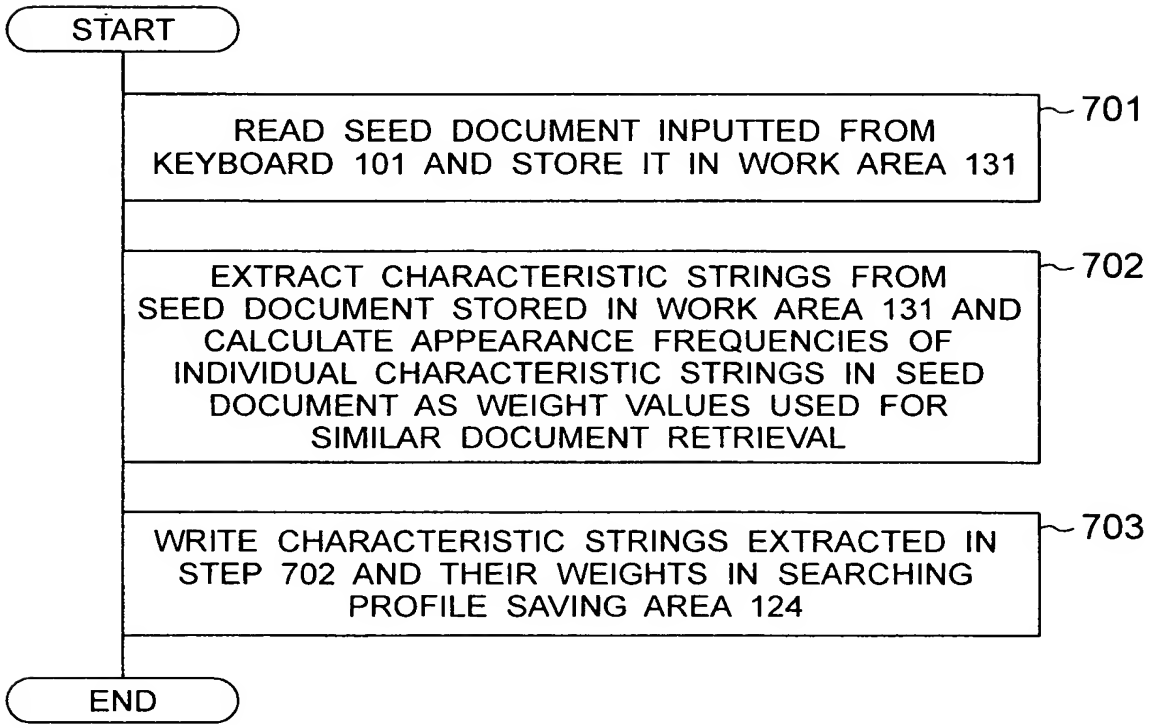

START
READ SEED DOCUMENT INPUTTED FROM KEYBOARD 101 AND STORE IT IN WORK AREA 131
701
EXTRACT CHARACTERISTIC STRINGS FROM SEED DOCUMENT STORED IN WORK AREA 131 AND CALCULATE APPEARANCE FREQUENCIES OF INDIVIDUAL CHARACTERISTIC STRINGS IN SEED DOCUMENT AS WEIGHT VALUES USED FOR SIMILAR DOCUMENT RETRIEVAL
702
WRITE CHARACTERISTIC STRINGS EXTRACTED IN STEP 702 AND THEIR WEIGHTS IN SEARCHING PROFILE SAVING AREA 124
703
END

FIG. 7

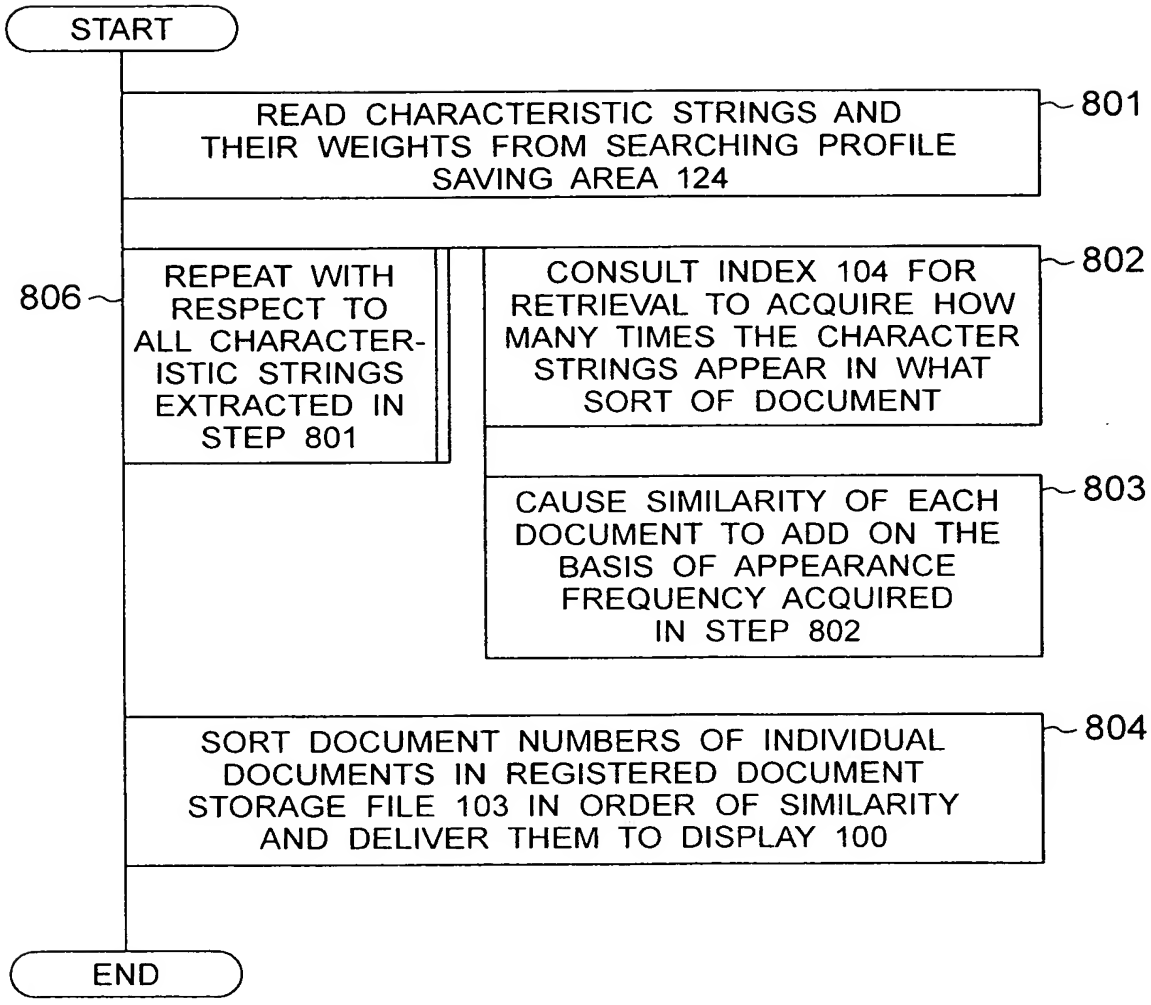

START
READ CHARACTERISTIC STRINGS AND THEIR WEIGHTS FROM SEARCHING PROFILE SAVING AREA 124
801
806
REPEAT WITH RESPECT TO ALL CHARACTER-ISTIC STRINGS EXTRACTED IN STEP 801
CONSULT INDEX 104 FOR RETRIEVAL TO ACQUIRE HOW MANY TIMES THE CHARACTER STRINGS APPEAR IN WHAT SORT OF DOCUMENT
802
CAUSE SIMILARITY OF EACH DOCUMENT TO ADD ON THE BASIS OF APPEARANCE FREQUENCY ACQUIRED IN STEP 802
803
SORT DOCUMENT NUMBERS OF INDIVIDUAL DOCUMENTS IN REGISTERED DOCUMENT STORAGE FILE 103 IN ORDER OF SIMILARITY AND DELIVER THEM TO DISPLAY 100
804
END

FIG. 8

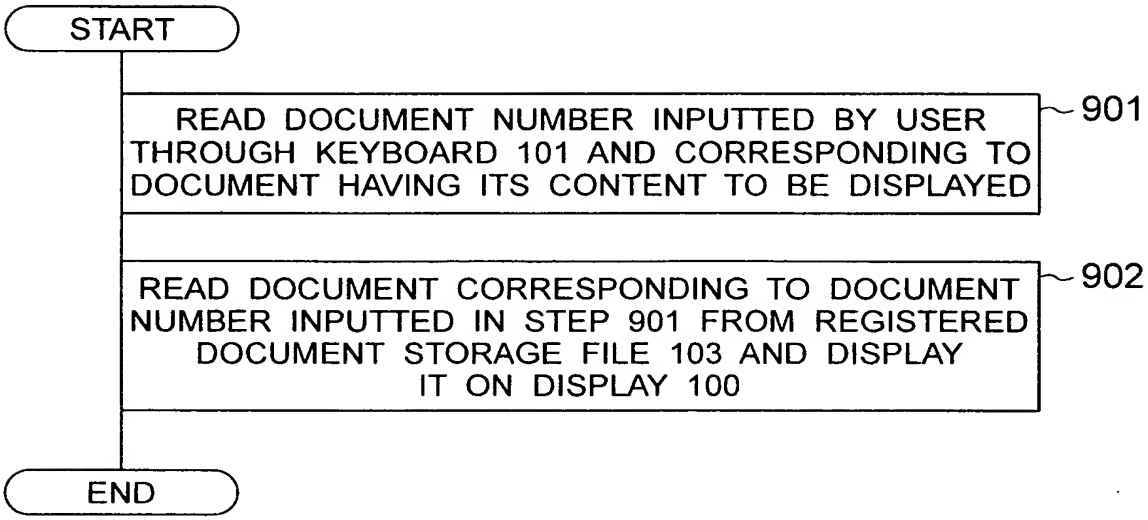

START
READ DOCUMENT NUMBER INPUTTED BY USER THROUGH KEYBOARD 101 AND CORRESPONDING TO DOCUMENT HAVING ITS CONTENT TO BE DISPLAYED
901
READ DOCUMENT CORRESPONDING TO DOCUMENT NUMBER INPUTTED IN STEP 901 FROM REGISTERED DOCUMENT STORAGE FILE 103 AND DISPLAY IT ON DISPLAY 100
902
END

FIG. 9

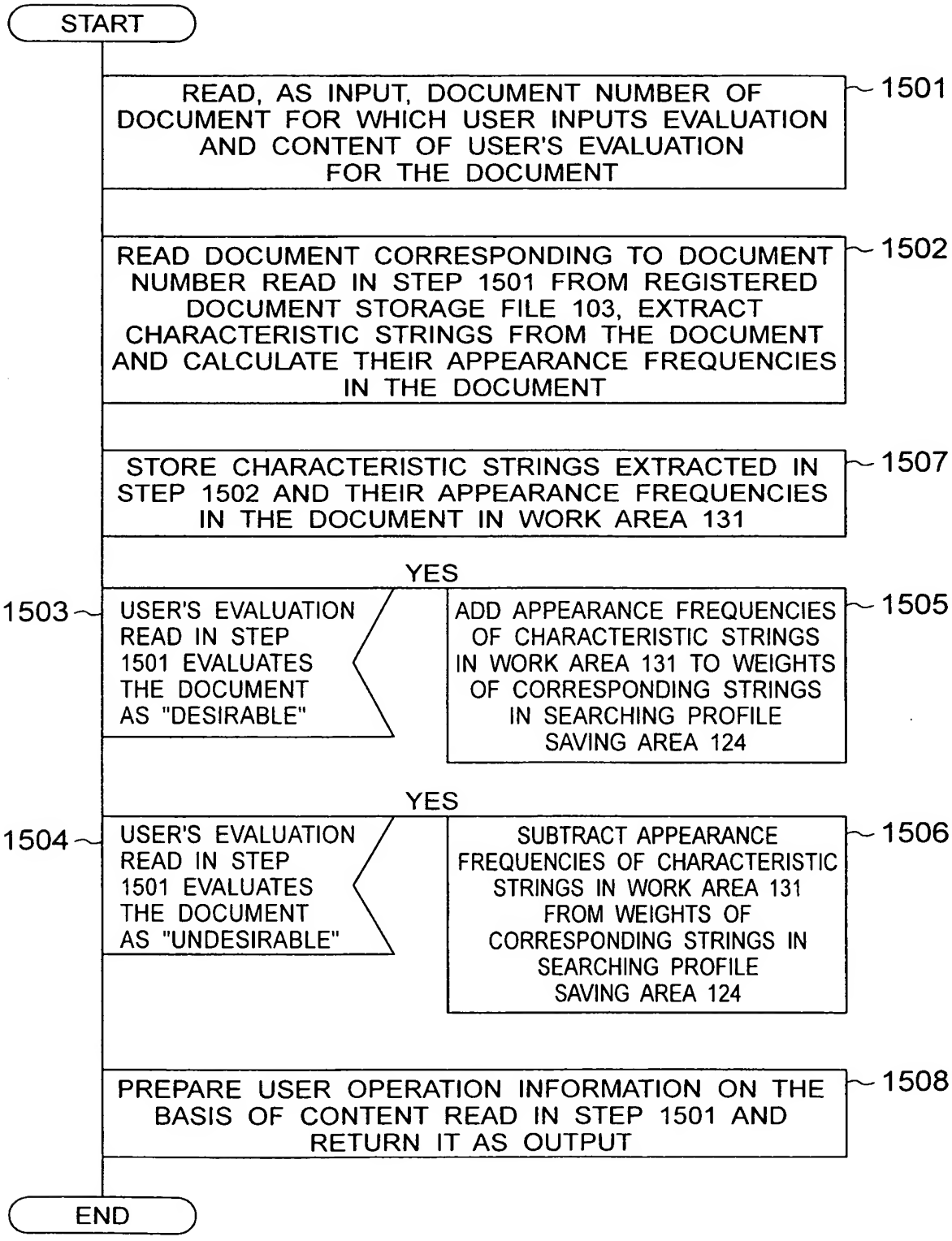

START
READ, AS INPUT, DOCUMENT NUMBER OF DOCUMENT FOR WHICH USER INPUTS EVALUATION AND CONTENT OF USER'S EVALUATION FOR THE DOCUMENT
1501
READ DOCUMENT CORRESPONDING TO DOCUMENT NUMBER READ IN STEP 1501 FROM REGISTERED DOCUMENT STORAGE FILE 103, EXTRACT CHARACTERISTIC STRINGS FROM THE DOCUMENT AND CALCULATE THEIR APPEARANCE FREQUENCIES IN THE DOCUMENT
1502
STORE CHARACTERISTIC STRINGS EXTRACTED IN STEP 1502 AND THEIR APPEARANCE FREQUENCIES IN THE DOCUMENT IN WORK AREA 131
1507
YES
1503
USER'S EVALUATION READ IN STEP 1501 EVALUATES THE DOCUMENT AS "DESIRABLE"
ADD APPEARANCE FREQUENCIES OF CHARACTERISTIC STRINGS IN WORK AREA 131 TO WEIGHTS OF CORRESPONDING STRINGS IN SEARCHING PROFILE SAVING AREA 124
1505
YES
1504
USER'S EVALUATION READ IN STEP 1501 EVALUATES THE DOCUMENT AS "UNDESIRABLE"
SUBTRACT APPEARANCE FREQUENCIES OF CHARACTERISTIC STRINGS IN WORK AREA 131 FROM WEIGHTS OF CORRESPONDING STRINGS IN SEARCHING PROFILE SAVING AREA 124
1506
PREPARE USER OPERATION INFORMATION ON THE BASIS OF CONTENT READ IN STEP 1501 AND RETURN IT AS OUTPUT
1508
END

FIG. 10

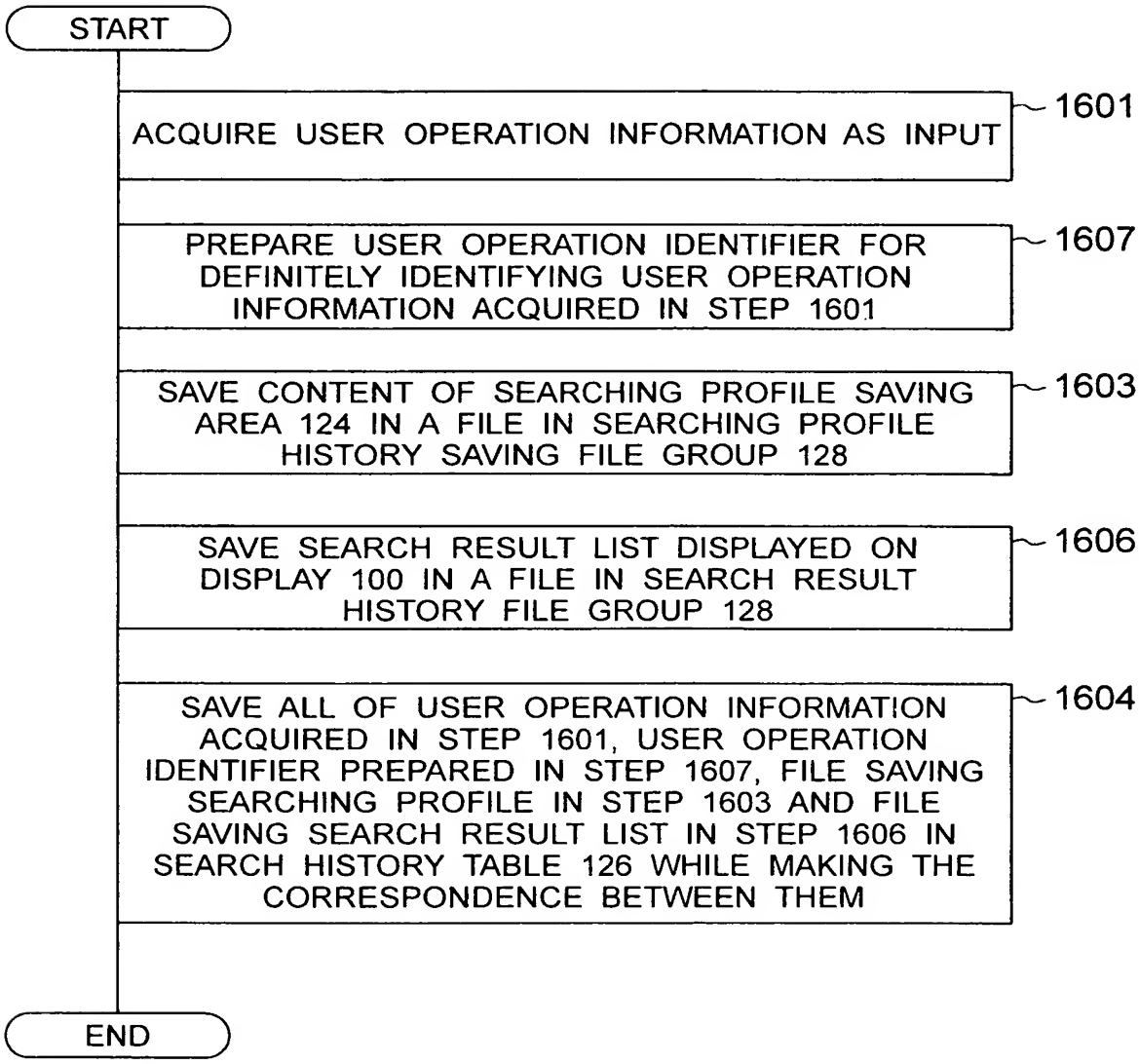

START
ACQUIRE USER OPERATION INFORMATION AS INPUT
1601
PREPARE USER OPERATION IDENTIFIER FOR DEFINITELY IDENTIFYING USER OPERATION INFORMATION ACQUIRED IN STEP 1601
1607
SAVE CONTENT OF SEARCHING PROFILE SAVING AREA 124 IN A FILE IN SEARCHING PROFILE HISTORY SAVING FILE GROUP 128
1603
SAVE SEARCH RESULT LIST DISPLAYED ON DISPLAY 100 IN A FILE IN SEARCH RESULT HISTORY FILE GROUP 128
1606
SAVE ALL OF USER OPERATION INFORMATION ACQUIRED IN STEP 1601, USER OPERATION IDENTIFIER PREPARED IN STEP 1607, FILE SAVING SEARCHING PROFILE IN STEP 1603 AND FILE SAVING SEARCH RESULT LIST IN STEP 1606 IN SEARCH HISTORY TABLE 126 WHILE MAKING THE CORRESPONDENCE BETWEEN THEM
1604
END

FIG. 11

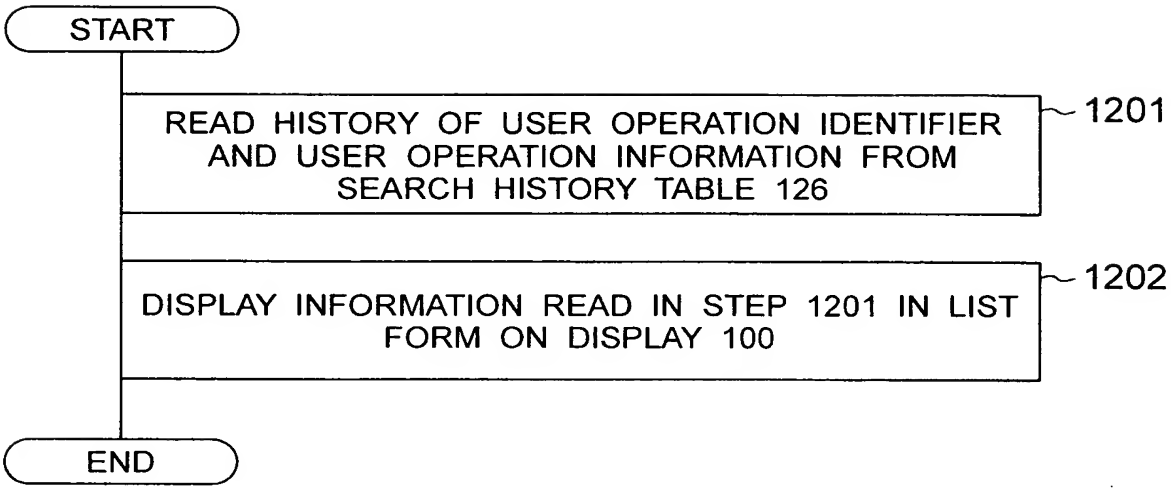

START
READ HISTORY OF USER OPERATION IDENTIFIER AND USER OPERATION INFORMATION FROM SEARCH HISTORY TABLE 126
1201
DISPLAY INFORMATION READ IN STEP 1201 IN LIST FORM ON DISPLAY 100
1202
END

FIG. 12

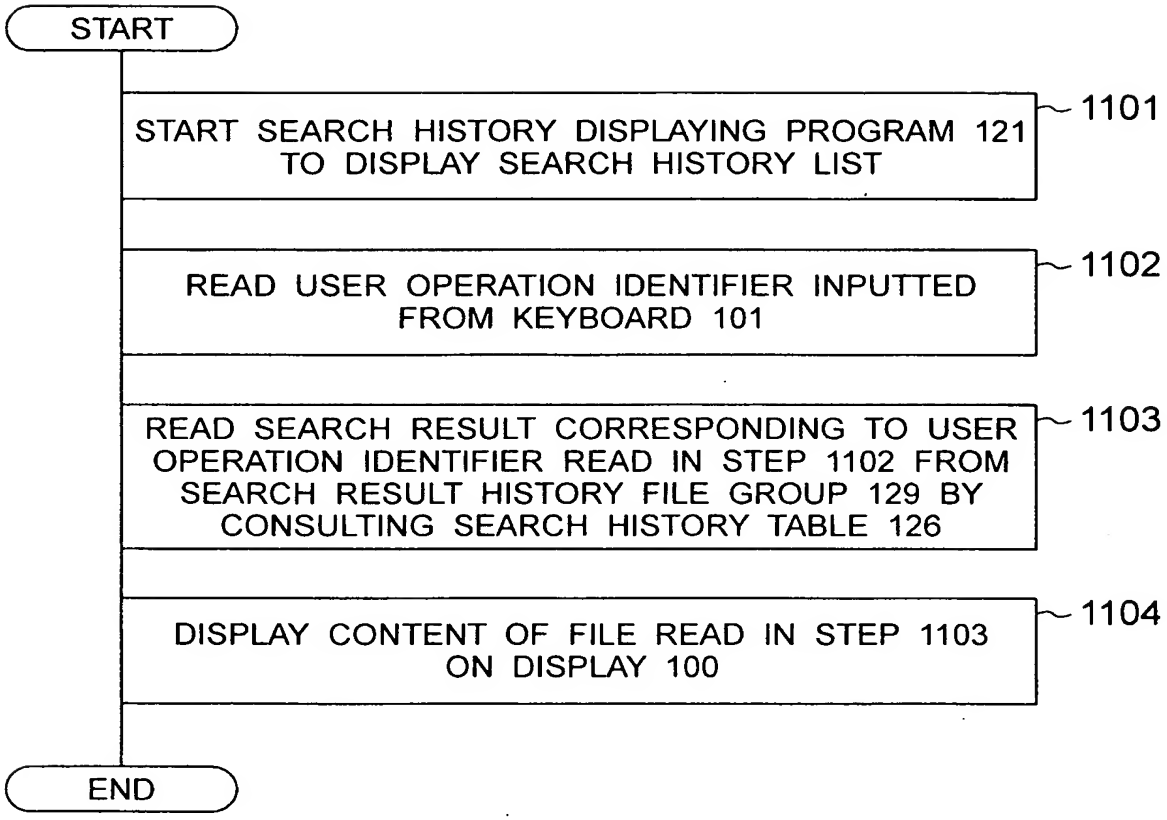

START
START SEARCH HISTORY DISPLAYING PROGRAM 121 TO DISPLAY SEARCH HISTORY LIST
1101
READ USER OPERATION IDENTIFIER INPUTTED FROM KEYBOARD 101
1102
READ SEARCH RESULT CORRESPONDING TO USER OPERATION IDENTIFIER READ IN STEP 1102 FROM SEARCH RESULT HISTORY FILE GROUP 129 BY CONSULTING SEARCH HISTORY TABLE 126
1103
DISPLAY CONTENT OF FILE READ IN STEP 1103 ON DISPLAY 100
1104
END

FIG. 13

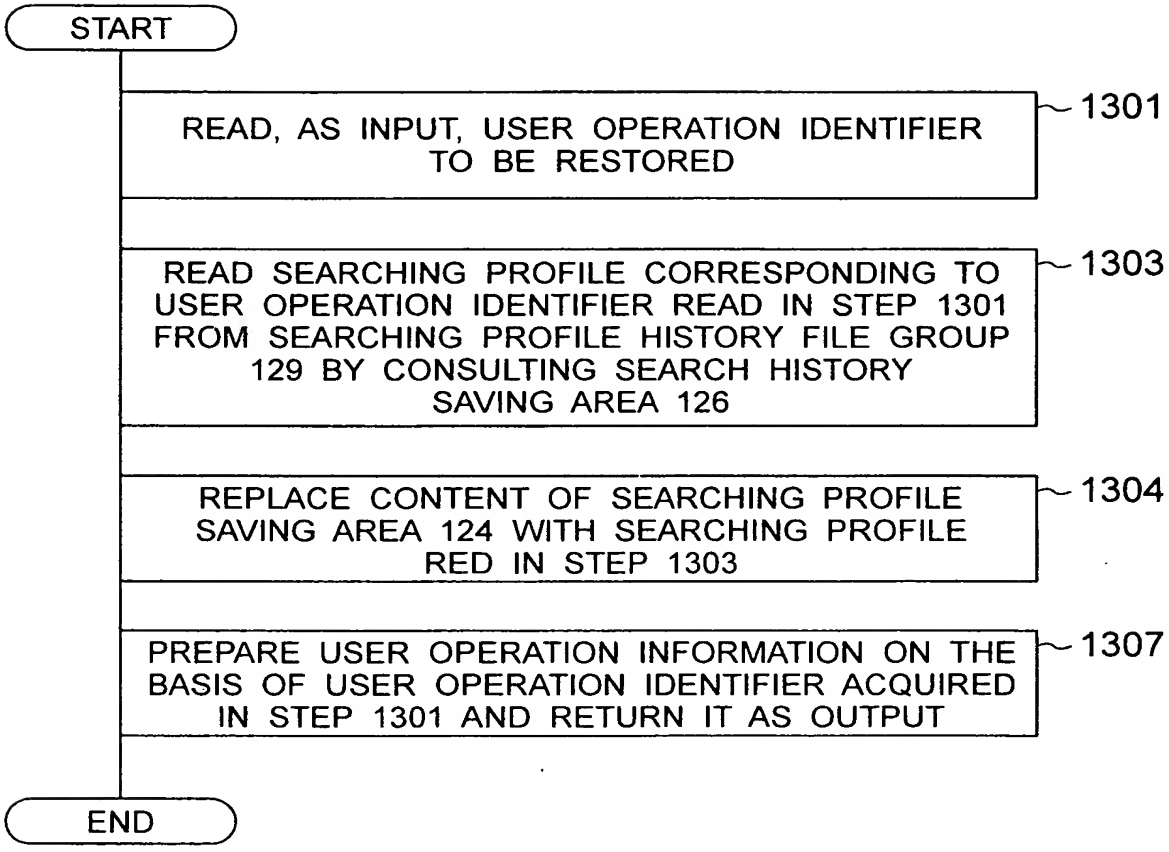

START
READ, AS INPUT, USER OPERATION IDENTIFIER TO BE RESTORED
1301
READ SEARCHING PROFILE CORRESPONDING TO USER OPERATION IDENTIFIER READ IN STEP 1301 FROM SEARCHING PROFILE HISTORY FILE GROUP 129 BY CONSULTING SEARCH HISTORY SAVING AREA 126
1303
REPLACE CONTENT OF SEARCHING PROFILE SAVING AREA 124 WITH SEARCHING PROFILE RED IN STEP 1303
1304
PREPARE USER OPERATION INFORMATION ON THE BASIS OF USER OPERATION IDENTIFIER ACQUIRED IN STEP 1301 AND RETURN IT AS OUTPUT
1307
END

FIG. 14

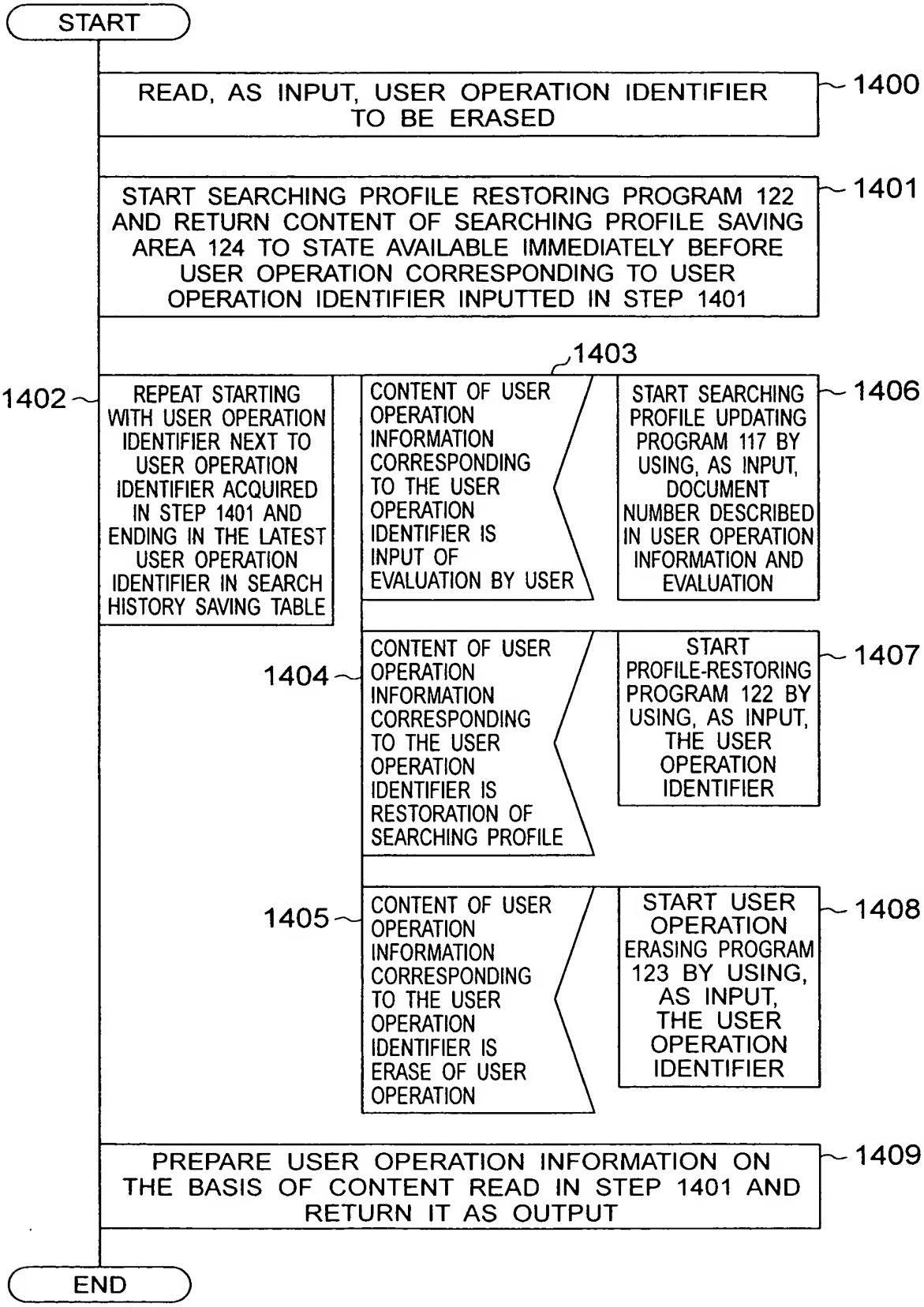

START
READ, AS INPUT, USER OPERATION IDENTIFIER TO BE ERASED
1400
START SEARCHING PROFILE RESTORING PROGRAM 122 AND RETURN CONTENT OF SEARCHING PROFILE SAVING AREA 124 TO STATE AVAILABLE IMMEDIATELY BEFORE USER OPERATION CORRESPONDING TO USER OPERATION IDENTIFIER INPUTTED IN STEP 1401
1401
1402
REPEAT STARTING WITH USER OPERATION IDENTIFIER NEXT TO USER OPERATION IDENTIFIER ACQUIRED IN STEP 1401 AND ENDING IN THE LATEST USER OPERATION IDENTIFIER IN SEARCH HISTORY SAVING TABLE
1403
CONTENT OF USER OPERATION INFORMATION CORRESPONDING TO THE USER OPERATION IDENTIFIER IS INPUT OF EVALUATION BY USER
START SEARCHING PROFILE UPDATING PROGRAM 117 BY USING, AS INPUT, DOCUMENT NUMBER DESCRIBED IN USER OPERATION INFORMATION AND EVALUATION
1406
1404
CONTENT OF USER OPERATION INFORMATION CORRESPONDING TO THE USER OPERATION IDENTIFIER IS RESTORATION OF SEARCHING PROFILE
START PROFILE-RESTORING PROGRAM 122 BY USING, AS INPUT, THE USER OPERATION IDENTIFIER
1407
1405
CONTENT OF USER OPERATION INFORMATION CORRESPONDING TO THE USER OPERATION IDENTIFIER IS ERASE OF USER OPERATION
START USER OPERATION ERASING PROGRAM 123 BY USING, AS INPUT, THE USER OPERATION IDENTIFIER
1408
PREPARE USER OPERATION INFORMATION ON THE BASIS OF CONTENT READ IN STEP 1401 AND RETURN IT AS OUTPUT
1409
END

FIG. 15

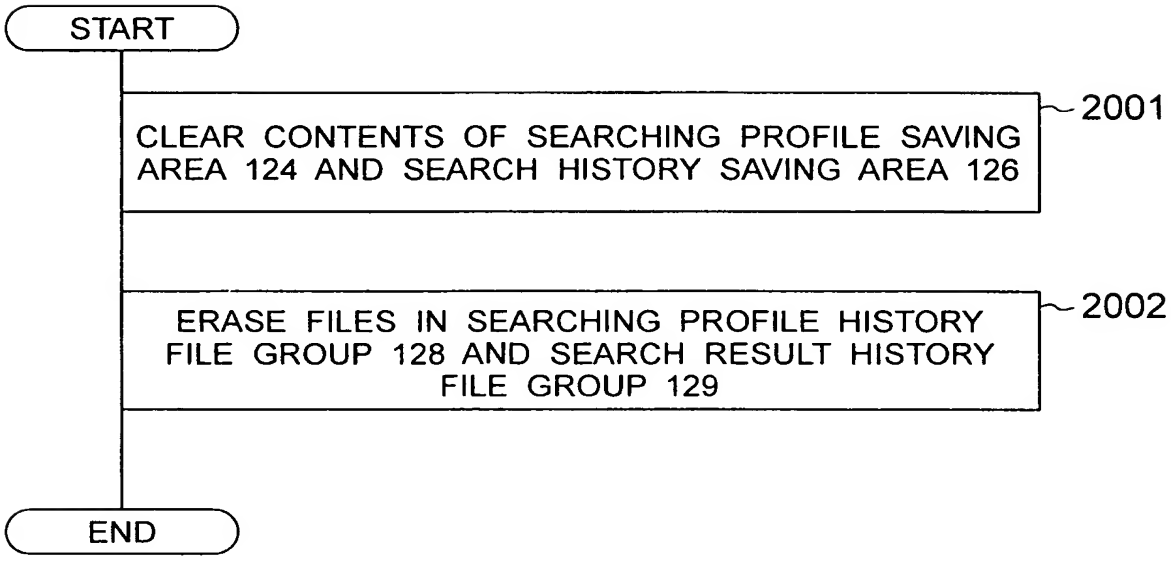

START
CLEAR CONTENTS OF SEARCHING PROFILE SAVING AREA 124 AND SEARCH HISTORY SAVING AREA 126
2001
ERASE FILES IN SEARCHING PROFILE HISTORY FILE GROUP 128 AND SEARCH RESULT HISTORY FILE GROUP 129
2002
END

FIG. 16

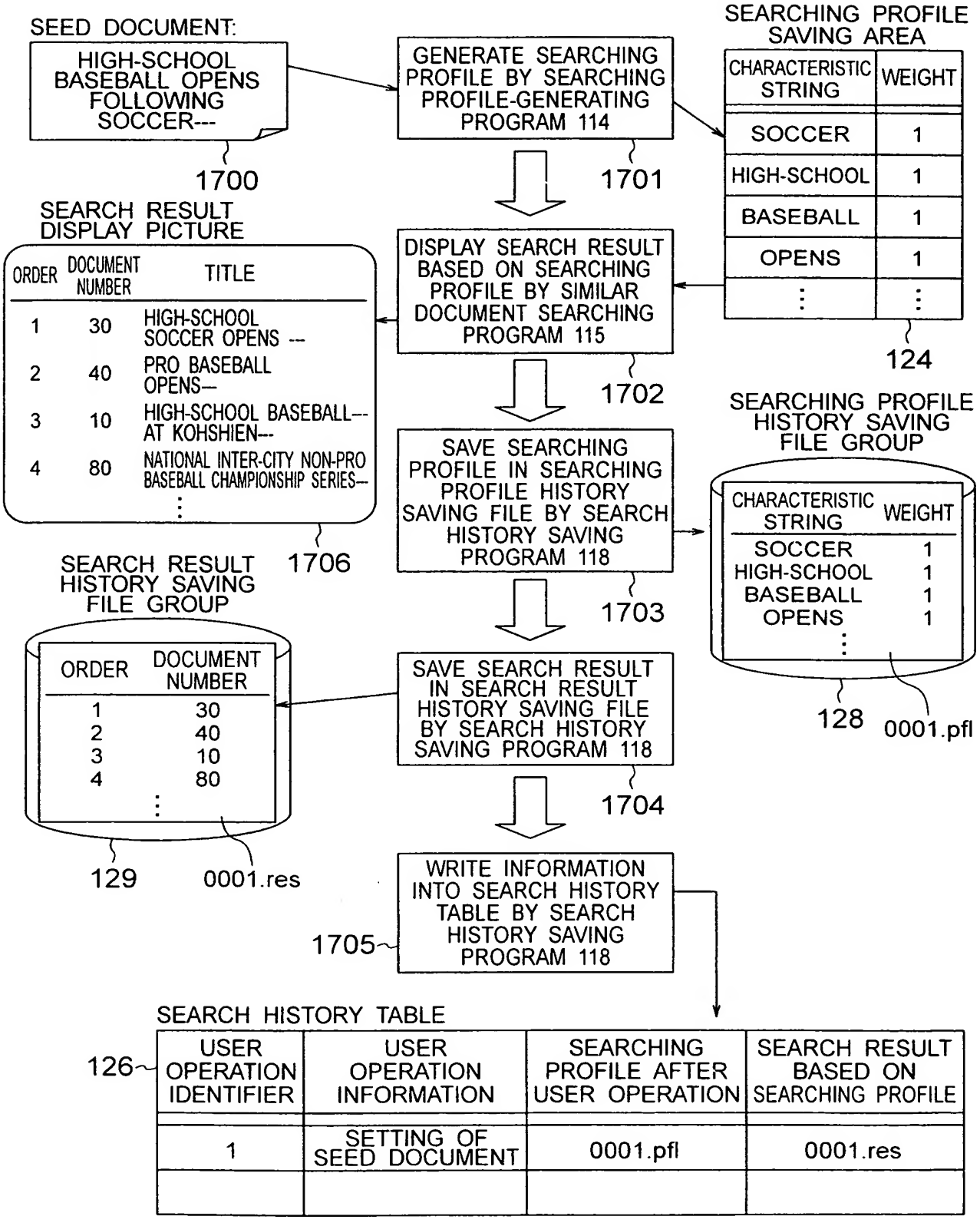
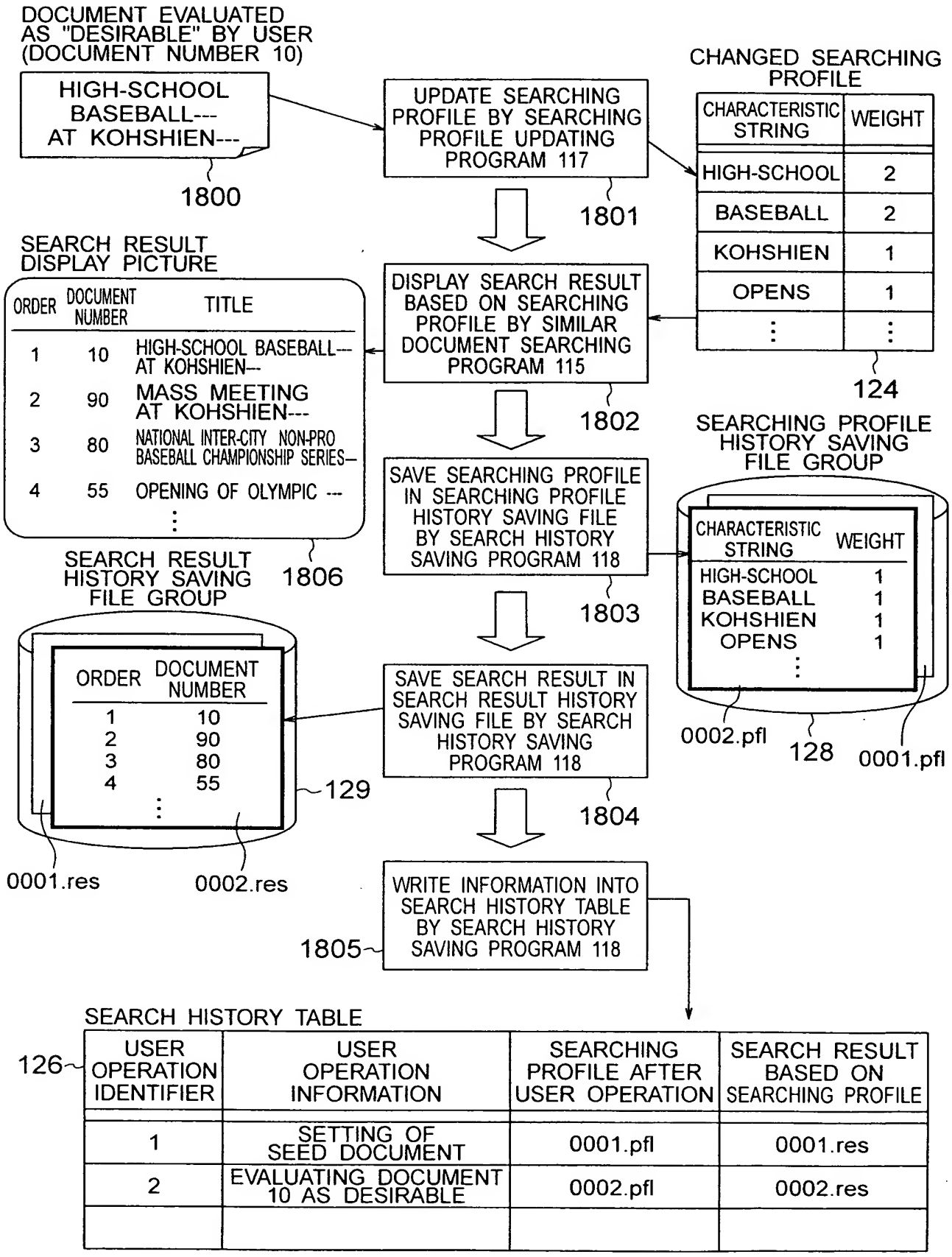

SEED DOCUMENT:
HIGH-SCHOOL BASEBALL OPENS FOLLOWING SOCCER---
1700
GENERATE SEARCHING PROFILE BY SEARCHING PROFILE-GENERATING PROGRAM 114
1701
SEARCHING PROFILE SAVING AREA
CHARACTERISTIC STRING
WEIGHT
SOCCER 1
HIGH-SCHOOL 1
BASEBALL 1
OPENS 1
124
SEARCH RESULT DISPLAY PICTURE
ORDER
DOCUMENT NUMBER
TITLE
1 30 HIGH-SCHOOL SOCCER OPENS ---
2 40 PRO BASEBALL OPENS---
3 10 HIGH-SCHOOL BASEBALL--- AT KOHSHIEN---
4 80 NATIONAL INTER-CITY NON-PRO BASEBALL CHAMPIONSHIP SERIES---
1706
DISPLAY SEARCH RESULT BASED ON SEARCHING PROFILE BY SIMILAR DOCUMENT SEARCHING PROGRAM 115
1702
SAVE SEARCHING PROFILE IN SEARCHING PROFILE HISTORY SAVING FILE BY SEARCH HISTORY SAVING PROGRAM 118
1703
SEARCHING PROFILE HISTORY SAVING FILE GROUP
CHARACTERISTIC STRING
WEIGHT
SOCCER 1
HIGH-SCHOOL 1
BASEBALL 1
OPENS 1
128
0001.pfl
SEARCH RESULT HISTORY SAVING FILE GROUP
ORDER
DOCUMENT NUMBER
1 30
2 40
3 10
4 80
129
0001.res
SAVE SEARCH RESULT IN SEARCH RESULT HISTORY SAVING FILE BY SEARCH HISTORY SAVING PROGRAM 118
1704
WRITE INFORMATION INTO SEARCH HISTORY TABLE BY SEARCH HISTORY SAVING PROGRAM 118
1705
SEARCH HISTORY TABLE
126
USER OPERATION IDENTIFIER
USER OPERATION INFORMATION
SEARCHING PROFILE AFTER USER OPERATION
SEARCH RESULT BASED ON SEARCHING PROFILE
1
SETTING OF SEED DOCUMENT
0001.pfl
0001.res

FIG. 17



SEARCH HISTORY TABLE

126

USER OPERATION IDENTIFIER	USER OPERATION INFORMATION	SEARCHING PROFILE AFTER USER OPERATION	SEARCH RESULT BASED ON SEARCHING PROFILE
1	SETTING OF SEED DOCUMENT	0001.pfl	0001.res
2	EVALUATING DOCUMENT 10 AS DESIRABLE	0002.pfl	0002.res

FIG. 18

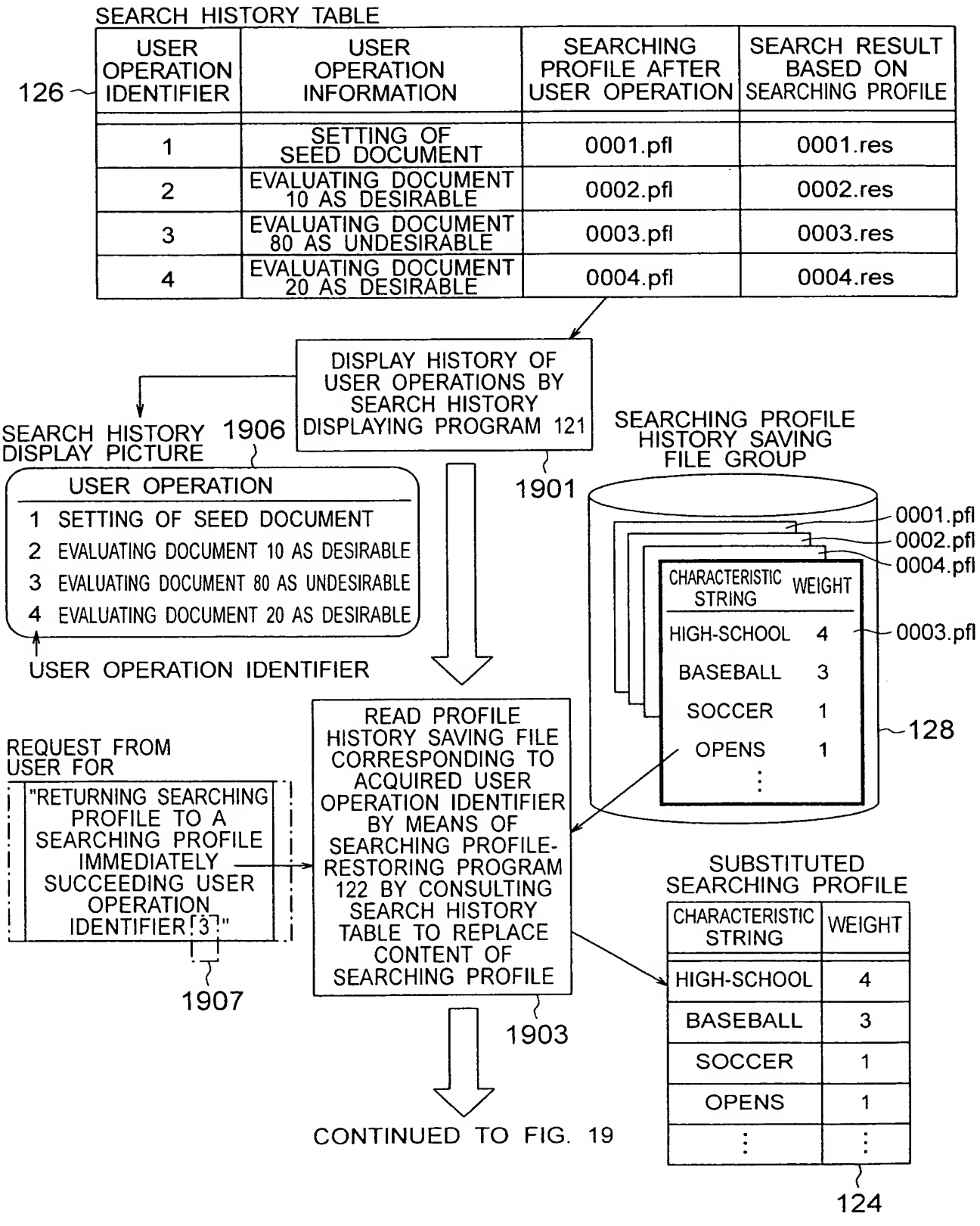
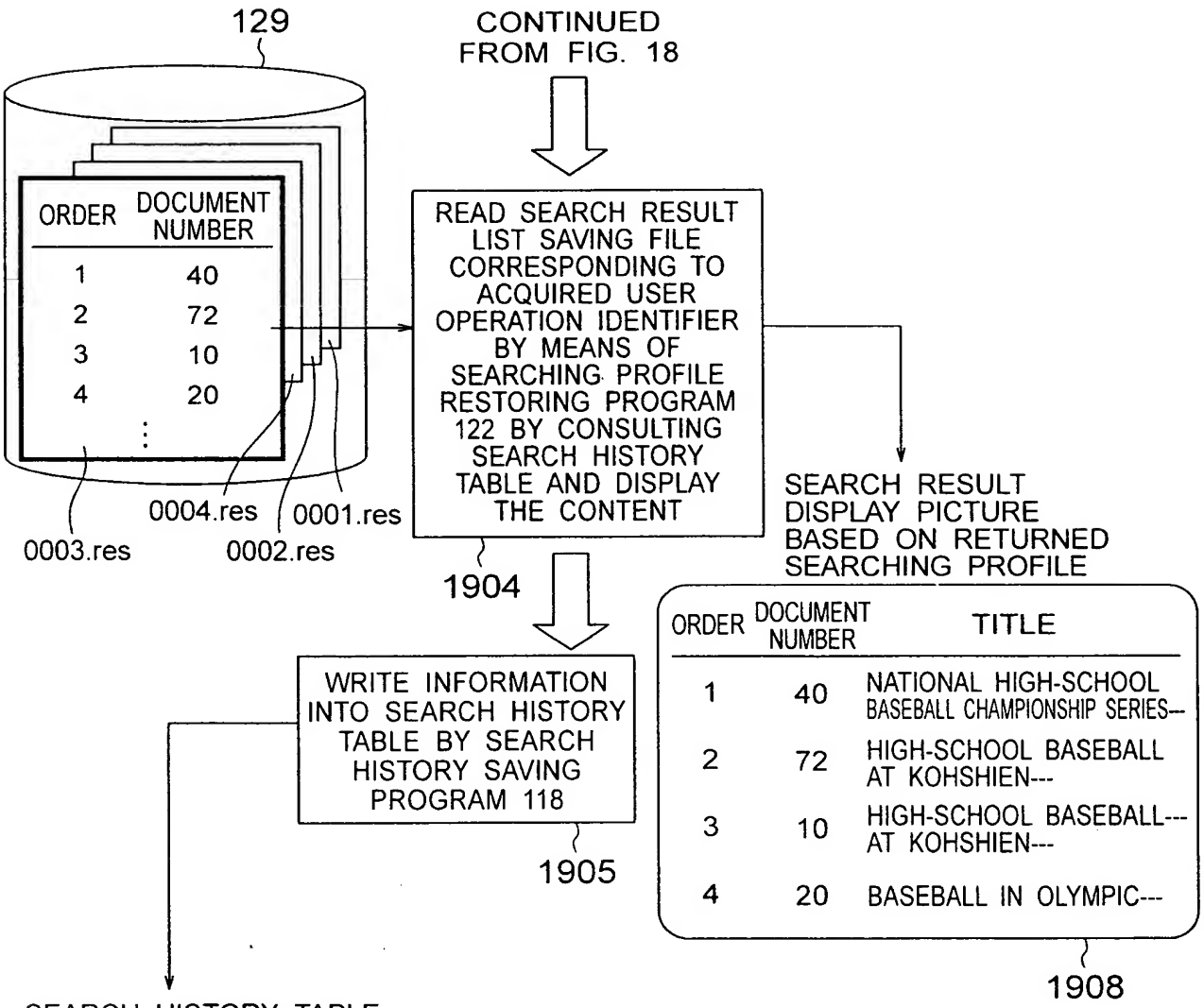

SEARCH HISTORY TABLE
126
USER OPERATION IDENTIFIER
USER OPERATION INFORMATION
SEARCHING PROFILE AFTER USER OPERATION
SEARCH RESULT BASED ON SEARCHING PROFILE
1 | SETTING OF SEED DOCUMENT | 0001.pfl | 0001.res
2 | EVALUATING DOCUMENT 10 AS DESIRABLE | 0002.pfl | 0002.res
3 | EVALUATING DOCUMENT 80 AS UNDESIRABLE | 0003.pfl | 0003.res
4 | EVALUATING DOCUMENT 20 AS DESIRABLE | 0004.pfl | 0004.res
DISPLAY HISTORY OF USER OPERATIONS BY SEARCH HISTORY DISPLAYING PROGRAM 121
1901
SEARCH HISTORY DISPLAY PICTURE
1906
USER OPERATION
1 SETTING OF SEED DOCUMENT
2 EVALUATING DOCUMENT 10 AS DESIRABLE
3 EVALUATING DOCUMENT 80 AS UNDESIRABLE
4 EVALUATING DOCUMENT 20 AS DESIRABLE
USER OPERATION IDENTIFIER
SEARCHING PROFILE HISTORY SAVING FILE GROUP
0001.pfl
0002.pfl
0004.pfl
0003.pfl
CHARACTERISTIC STRING
WEIGHT
HIGH-SCHOOL 4
BASEBALL 3
SOCCER 1
OPENS 1
128
REQUEST FROM USER FOR
"RETURNING SEARCHING PROFILE TO A SEARCHING PROFILE IMMEDIATELY SUCCEEDING USER OPERATION IDENTIFIER [3]"
1907
READ PROFILE HISTORY SAVING FILE CORRESPONDING TO ACQUIRED USER OPERATION IDENTIFIER BY MEANS OF SEARCHING PROFILE-RESTORING PROGRAM 122 BY CONSULTING SEARCH HISTORY TABLE TO REPLACE CONTENT OF SEARCHING PROFILE
1903
SUBSTITUTED SEARCHING PROFILE
CHARACTERISTIC STRING
WEIGHT
HIGH-SCHOOL 4
BASEBALL 3
SOCCER 1
OPENS 1
124
CONTINUED TO FIG. 19

FIG. 19

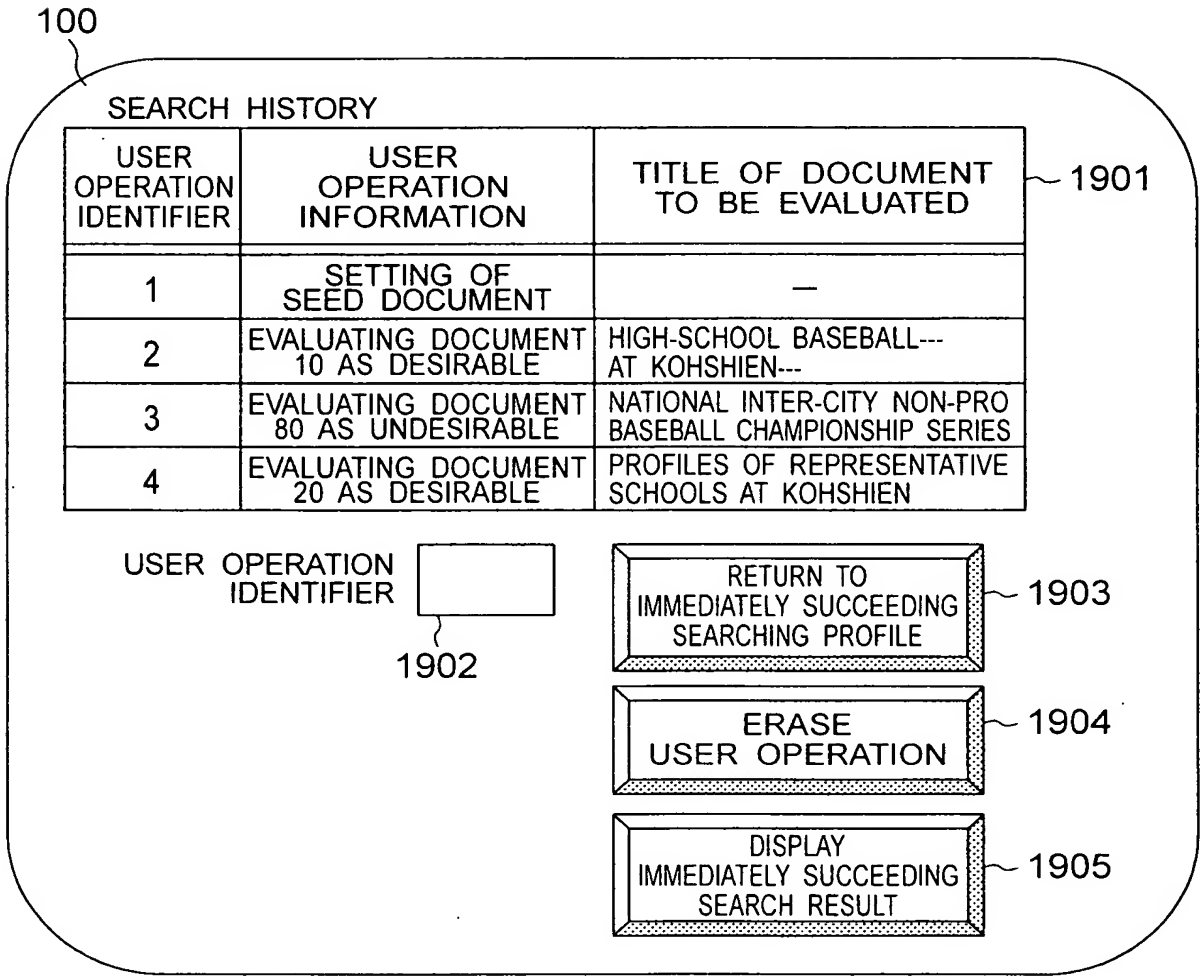


SEARCH HISTORY TABLE

USER OPERATION IDENTIFIER	USER OPERATION INFORMATION	SEARCHING PROFILE AFTER USER OPERATION	SEARCH RESULT BASED ON SEARCHING PROFILE
1	SETTING OF SEED DOCUMENT	0001.pfl	0001.res
2	EVALUATING DOCUMENT 10 AS DESIRABLE	0002.pfl	0002.res
3	EVALUATING DOCUMENT 80 AS UNDESIRABLE	0003.pfl	0003.res
4	EVALUATING DOCUMENT 20 AS DESIRABLE	0004.pfl	0004.res
5	RESTORING USER OPERATION 3	0003.pfl	0003.res

126

FIG. 20


100
SEARCH HISTORY
USER OPERATION IDENTIFIER
USER OPERATION INFORMATION
TITLE OF DOCUMENT TO BE EVALUATED
1901
1 SETTING OF SEED DOCUMENT —
2 EVALUATING DOCUMENT 10 AS DESIRABLE HIGH-SCHOOL BASEBALL--- AT KOHSHIEN---
3 EVALUATING DOCUMENT 80 AS UNDESIRABLE NATIONAL INTER-CITY NON-PRO BASEBALL CHAMPIONSHIP SERIES
4 EVALUATING DOCUMENT 20 AS DESIRABLE PROFILES OF REPRESENTATIVE SCHOOLS AT KOHSHIEN
USER OPERATION IDENTIFIER
1902
RETURN TO IMMEDIATELY SUCCEEDING SEARCHING PROFILE
1903
ERASE USER OPERATION
1904
DISPLAY IMMEDIATELY SUCCEEDING SEARCH RESULT
1905